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Higher Education and Digital Media in Regional Australia: The Current Situation for Youth

Abstract

Equitable access and participation in higher education from regional youth is a major concern in Australia (National Centre for Student Equity in Higher Education (NCSEHE), 2015). Currently 0.9% of all university students in Australia come from a regional or remote area (NCSEHE, 2015). This statistic is alarming in the context of the ever-rising digital economy in Australia, and the increasing importance of higher education for employment. This article synthesises current literature relating to Australian regional youth's low participation in higher education, and the implications of this for their employability in the rapidly-developing digital economy. The compilation of data around the current situation around Australian youth and higher education emphasises the need for further research and understanding into how these young people make the decision to pursue university, and furthermore pursue a career in digital media. In relation to all undergraduate enrolments, the proportion of regional higher education students is stagnant or falling (NCSEHE, 2015). As a nation, the demand for digital competencies in the workforce is rising (Foundation for Young Australians (FYA), 2015). Access to these technologies in regional Australia is more limited and expensive than metropolitan areas (Regional Telecommunications Independent Review Committee, 2015). Consequently, regional youth risk missing out on the opportunity to master digital technologies to participate in the workforce both via their limited access to them at home, and their lack of participation in higher education where they would acquire skills for digital workplace contexts (Duncan-Howell, 2012).

Keywords: regional youth; higher education; digital media; digital economy; access; digital divide

Introduction

In this stage of the 21st century, it is necessary for young people to acquire digital media skills. Computer skills and knowledge of digital media platforms is increasingly a compulsory part of daily work and living (Innovation and Business Skills Australia, 2013). Many regional Australians are not sufficiently digitally competent (Innovation and Business Skills Australia, 2013). Availability of reliable internet services forms a significant factor in this revelation, as the policy and promises around the National Broadband Network (NBN) form a recurring point of political debate. Yet the shift away from primary industries in regional Australia (Townsend, 2010), and the increasing saturation of digital media in many professional areas, points to a serious need for digital competencies (Swan & Hearn, 2014). These developments have significant implications for regional students who face more obstacles to higher education than their urban counterparts. In this article, regional will be treated as a blanket term referring collectively to the inner regional, outer regional, remote and very remote classifications of the Accessibility/Remoteness Index of Australia + (ARIA+), born from the Remoteness Structure of the Australian Standard Geographical Classification (Australian Bureau of Statistics, 2014). ARIA+ is recognised as a “nationally consistent measure of geographic remoteness” (ABS, 2014). Regionalism, or rurality, however, is more than a geographical classification for the people that live regionally. It can also be considered culturally in terms of the population size and doings of the communities, which are different from that of metropolitan society (Reid et al., 2010; Robinson, 2012).

Regional people have long been underrepresented in higher education (National Centre for Student Equity in Higher Education (NCSEHE), 2015). Regional people hold the smallest proportion of university enrolments, which has been proportionately declining for some time. From 2007-2014, the regional proportion of all university enrolments has reduced from 1% to 0.9% (NCSEHE, 2015). The long term decline has continued despite federal government funding offering provisions for universities to reach out to regional youth as part of the Higher Education Partnerships and Participation Program (HEPPP) since 2010. While more than a third of city youth are enrolled in university study, only 12.7% of inner regional, 12.5% of outer regional and 7% of remote youths are currently at university (McKenzie, 2016). With the exception of universities based in Canberra, Australian universities are predominantly located on the coasts of the continent (University Reviews, 2015). Australian coastal areas are the most urbanised areas, with 69% of the population living in the coastal major cities (Baxter, Hayes & Gray, 2011). The remaining 31% of the population live in regional areas (20% inner regional, 9% outer regional, 1.5% remote, and 0.8% very remote), and are naturally distanced from higher education opportunities (Baxter, Hayes & Gray, 2011). The situation portrayed by these statistics points to the need for more research into regional youth, their personal interpretation of the purpose and desire to go to university, and the futures they want for themselves. Regional students are less likely to participate in higher education than urban students. The logistical barriers of distance and finance are two clear reasons for this (Robinson, 2012; Universities Australia, 2014), making the path to university for many regional students problematic. The higher education policy environment is currently volatile as reforms continue to be debated in parliament (Department of Education and Training (DET), 2014). While currently at a standstill, the most notable of these reforms is the possibility of higher student fees and funding changes for regional universities (DET, 2014).

The future for regional youth will be driven by technology, digital media and the digital economy. Therefore, this article will synthesise the current situation for regional youth in relation to university, technology, and the digital economy, arguing that regional youth are presently disadvantaged in terms of access to higher education and the digital economy. The article will make this argument by discussing digital competence and its increasing significance in higher education and employment, and synthesising the current literature around disadvantage for

regional youth, thereby highlighting the need for more research to address the gaps in access to digital and higher education resources for regional youth.

Consulting the Literature

Digital competence has an established presence in learning and work across modern society. It is therefore important for regional youth to be digitally competent in order to participate fully in the work economy of the present and future. Gaining digital competence has been linked to higher education participation (Duncan-Howell 2012), where regional youth are underrepresented (DET 2014). This theme is addressed in the first four subsections by examining digital competence of Australian school students. Compared to metropolitan students, regional students' access to both the internet and higher education services is disadvantaged, highlighted by low proportions of regional students enrolled in university degrees. This theme is addressed in the latter three subsections, by synthesising current literature surrounding disadvantage facing regional youth, including poverty, industry changes, and higher education access and costs. From these two primary themes emerges a third; the apparent need for more research into regional students' digital competence and disadvantage, with the aim of closing some of the gaps in participation in both the digital economy and higher education.

Digital Competence: Learning, Education and Jobs

Digital competence is considered “the confident and critical use of information and communication technologies for employment, learning, self-development and participation in society” (Duncan-Howell, 2012, 829). Digital competency is distinct from digital literacy; which is focused around the practices and accumulation of knowledge that originate from media literacy (Dezuanni, 2015). According to Innovation and Business Skills Australia (2013), experts and citizens who were surveyed agreed that some of the main digital competencies that were necessary for development in regional areas included: understanding and using internet technology and social networking, learning how to set up small office and home equipment networks and how to build and use websites to sell products and services online. The self-professed need for these skills indicates that digital competence regionally is not at the saturation levels it could be. Moreover, digital media literacy has been described as one of the “key competencies of the twenty-first century” (Australian Communication and Media Authority (ACMA), 2009a, 1). Education systems around the world have grappled with the introduction of digital competencies into their curriculum, knowing that often their students are embracing and mastering the skills outside the classroom (Hoechsmann & Poyntz, 2012). However, this assumption is not always accurate, as a student's digital literacy skills depend on a myriad of factors generated from both school and home. It is these factors specific to regional students that need to be uncovered by further research in order to improve digital competency rates in regional areas, and show where and how support could be generated.

Currently there is growth in specialist digital creative jobs, in which professionals specialise in the creation and development of digital technologies, as well as the application of these technologies. There is also a growth in employment amongst embedded “digital creatives”: a digital media professional who is “embedded” in an industry other than the traditional digital media industries (such as IT, film and TV, and journalism) (Swan & Hearn, 2014). The increase in digital media jobs, coupled with a decrease in unskilled work, means it will be important for more regional Australians to be digitally competent to remain employed (National Rural Health Alliance, 2013a; Swan & Hearn, 2014). ICT jobs are forecast to grow by 2% per year, and jobs that regularly use ICT skills are forecast to grow by 1.5% per year (Australia's Digital Pulse, 2016). Currently over 695000 people are employed in ICT jobs, and more than two million are employed

in jobs that regularly use ICT skills (Australia's Digital Pulse, 2016). Jobs in regional areas also require these skills. For example, graduates from Marcus Oldham College in Victoria, which offers business degrees in agriculture and agribusiness, have obtained jobs regionally in a variety of professions from accounting to information management for crop production (Marcus Oldham College, 2017). With work trends indicating that jobs requiring digital competence are increasing, it is most important that regional students hone in on digital skills to remain employed throughout their working life. Learning these skills would involve a sound internet connection.

The Internet and Digital Media: Regional Use

Some of the reasoning behind lower digital competency levels among regional youth can be correlated with the availability of the internet and how it is used. In 2014, approximately 75% of regional Australians had broadband internet connections, with 27% of these accessing the internet via their smartphone, and 9% over satellite (Australian Bureau of Statistics (ABS), 2014). But, regional Australians can experience difficulties and higher costs to secure a connection (Regional Telecommunications Independent Review Committee (RTIRC), 2015). Compared to urban customers, regional Australians do not have equitable access to broadband in relation to price, speed and available download (Manning, 2010). These statistics point to the much discussed 'digital divide'. ACMA reported in 2016 that 79% of urban (regional) people and 80% of non-urban (remote) people had a broadband connection at home in 2015. While this indicates that the gap between regional and metropolitan populations in terms of access to internet has decreased in recent years, The 2016 Australian Digital Inclusion Index notes that the "digital ability and affordability" gap for regional people compared to metropolitan people has widened.

In terms of digital ability, many regional users of internet and digital media are considered "potential transitioners," (Healey, 2011, 9) which indicates that they are taking steps towards becoming frequent users, but currently only use digital media when there are "clear benefits" (ACMA, 2009b, 7). ACMA's 2016 snapshot of regional internet use showed that regional Australians use the internet most for communication and information; more so than for banking and finance or buying and selling goods (ACMA 2016). While metropolitan digital users exhibit similar trends, Digital devices are being introduced to "facilitate interaction... especially [for] those working in different locations" (Derks & Bakker, 2013, 2). This has significant implications for regional school-leavers, who will enter this modern version of the professional economy regardless of their geographical location. Furthermore, Derks and Bakker (2013, 1) state that "work and family life have become highly integrated, facilitated by the technology of digital media." For regional families, a slower household and community temporal rhythm with respect to digital technology could mean that this integration takes longer, and requires more formal learning than metropolitan families and workers (Mackay & Ivey, 2004). However, an increasing number of professions involve the use of digital media as part of daily work (Derks & Bakker, 2013).

Moving to affordability divide, internet broadband connections and mobile data are expensive for regional Australians, both as a proportion of household income spent and value for money (The Australian Digital Inclusion Index, 2016). Mobile data in regional areas is more expensive and less available than metropolitan services even when sourced from the same provider (Manning, 2010). 70% of Australia's land mass is still without mobile coverage (Regional Telecommunications Independent Review Committee (RTIRC), 2015) and many regional and remote customers are still without reliable internet, as the National Broadband Network (NBN) rollout continues (RTIRC, 2015). The RTIRC is concerned that "*current data allowances do not enable regional users to effectively manage businesses,*" and has also made a recommendation that use of the internet for external study be exempt from data quotas (RTIRC, 2015, xi). While so much of Australia's data

upgrade is in the pipeline, and the cost of physically attending university is so great for regional students, the existing disadvantages are rolling together to create a bigger disadvantage: a slow start in the “new” digital economy.

Indigenous Australians experience a more exacerbated version of the digital divide than most regional Australians. In the 2016 Australian Digital Inclusion Index, indigenous people were 7.9 points below the national average on the index, with a score of 46.6. This is a minor improvement compared to the previous version of the index published, although very remote indigenous communities have been excluded from the research (The Australian Digital Inclusion Index, 2016). Samaras (2005) argues that the indigenous digital divide stems from existing socioeconomic disadvantages, and that indigenous Australians will be left further behind as “social and economic opportunity becomes increasingly wedded to ICT access in the information society” (p.91). Samaras’ (2005) article provides in depth analysis into the causes of the division and analyses current services available to indigenous Australians in their communities.

Regional youth are less likely to be digitally competent than metropolitan youth, simply due to their limited access to reliable and fast internet or mobile data in order to be able to learn digital skills. In turn, regional youth require the provision of adequate education about digital skills, uses and jobs in order to become digitally competent.

Australia’s Declining Digital Literacy in Year 10 Students

While this article is primarily concerned with the digital competence of regional youth, questions have been raised about the coverage of ICT skills in the curriculum for all Australian children. In late 2015, there were a number of articles circulating in the press about Australian youths’ declining digital literacy levels (for example see Jacks, 2015). The Australian Curriculum and Reporting Authority (ACARA) reported that 48% of grade 10 students had below-average information and communication technology (ICT) skills (Jacks, 2015). It is important to note that ACARA refers to ICT skills as the ability to use a computer for everyday tasks, such as word processing, browsing the internet, and creating online content. Compared with 2011, computer proficiency had decreased by 13% in Year 10 students (ACARA, 2014).

ACARA identified a connection between student digital literacy, parental employment, and parental education, emphasising the existence of a digital divide (ACARA, 2014). The term digital divide signifies varying access to digital technologies, both in relation to physical access and the ability to use the technology competently (Hartley, Montgomery & Rennie, 2002). Students with parents who held ‘professional’ jobs (rather than sales or administration jobs) were more likely to be digitally competent than those who did not (ACARA, 2014). This correlation also supports the argument that students from lower income families are less likely to have access to technology, or use technology less frequently at home to practice what are considered basic digital skills (ACARA, 2014). These correlations have significant implications for regional youth, whose parents often earn less in lower skilled jobs than metropolitan households. In fact, home-use of computers was significantly lower in students in non-metropolitan areas and consequently, students’ proficiency in ICT skills was lower in provincial schools than metropolitan schools, and lower again in remote schools (ACARA, 2014). This statistic cements the argument that there are significant barriers to regional youth becoming digitally competent, due to issues with access to appropriate resources at home. This disadvantage at schooling age translates into disadvantage after school, including post-school study and work options for regional youth.

Graduates' Digital Competency: Working in the Digital Economy

Regional youth will need to be digitally competent in order to remain employed in the future. The National Innovation and Science Agenda (2015) believe that virtually all Australian jobs will require digital skills within the next five to 10 years. Within the same timeframe, 40% of Australian jobs could become automated (Foundation for Young Australians (FYA), 2015). It is anticipated that more than half of Australian workers will need digital literacy skills for work within the next two to three years (FYA, 2015). Essentially, Australian young people will need to be digitally competent in order to get, and hold, a job in the very near future (Riddle, 2015). However, the FYA argues that Australian youth are currently being groomed for jobs that will not exist when they enter the workforce (FYA, 2015). 70% of common entry level jobs for young people will be lost, including over 50% of jobs students are currently studying toward (FYA, 2015). While these statistics paint a particularly dire picture, the National Innovation and Science Agenda (2015) planned to focus more on digital literacy in schools from July 1 2016. The \$51 million package aims to better integrate digital learning into the national curriculum, and boost teacher training in the digital realm (National Innovation and Science Agenda, 2015). In theory, this package should assist regional youth to gain digital competence before they come of working age, therefore relieving some of their issues.

In Australia, many digital media professionals are embedded in other industries (Swan & Hearn, 2014). In 2001, 90% of embedded creative workers were employed as *digital* creatives, emphasising the need for skilled, digitally competent workers (Goldsmith, 2014). In 2015, 52% of ICT workers were employed outside of the ICT industry itself in areas including financial services, public administration and professional services (Australian Computer Society, 2015)¹. The Australian agriculture and agribusiness industry has been reported as one of the industries that is adopting digital media and enticing regional graduates as non-traditional parts of the industry thrive (McLeod, 2012; *Skills for a rural career*, 2015). Graduates from Marcus Oldham College, an agricultural institution in Victoria, have entered the agriculture industry in management, marketing and consulting jobs (*Skills for a rural career*, 2015); business areas which are increasingly employing digital creatives (Swan & Hearn, 2014). The *Australia's Digital Pulse 2015* report found that how Australians are studying digital media is also changing. The number of graduates from digital disciplines has been falling each year since 2000, indicating that students (both regional and metropolitan) are either making other career choices, or expecting to be trained in digital media skills as part of the degree of their choice (Duncan-Howell, 2012). Many currently employed in a job using digital media have gained their skills in the domain through advertising, marketing, management, accounting or commerce degrees (Australian Computer Society, 2015). This highlights the necessity of digital media skills in so many industries that are outside of the traditional "digital media" industries, with 100000 more ICT professionals expected to be hired between 2014 and 2020 (Australian Computer Society, 2015). At the core of these issues is the assumption that youth are going to university. Regional youth are only attending university in very small proportions, accounting for less than one percent of all enrolments (NCSEHE 2015). By not attending higher education, regional youth are by default missing out on an opportunity to gain digital competence. This fact draws together the two critical themes of this article. Firstly, that regional youth are not attending higher education (some reasons for which will be dealt with in the second half of this article). The second theme is that of regional youth experiencing disadvantage in their acquisition of digital competence. The junction of these themes, industries and skills again suggests the third theme; a need to

¹ The Australian Computer Society uses a definition of ICT developed by the Centre for Innovative Industries Economic Research (CIER). Their definition of ICT workers includes those who purchase and use ICT products as part of their work, and employ specialists to assist them to apply their ICT purchases (Centre For Innovative Industry Economic Research Inc 2008).

understand how regional students are making higher education decisions in the current circumstances around their background, work options and digital media.

Regional Poverty

We now reach the second portion of the article, which investigates the disadvantages experienced by regional youth attempting to participate in higher education. These disadvantages vary considerably among individuals, and more broadly across townships depending on the services available. A good point to start, however, is with one of the key contributing factors cited as a concern by youth considering university; money (Mission Australia 2014). One in three Australians lives in a regional area (National Rural Health Alliance, 2013a). However, 13.1% of regional Australians live in poverty compared with 12.6% in cities, (National Rural Health Alliance, 2013a). Poverty is defined using the OECD definition, which draws the poverty line at 50% of the median income (Australian Council of Social Service (ACOSS), 2014). Regional Australians' incomes on average are 20% lower than their metropolitan counterparts (National Rural Health Alliance, 2013b). Queensland has the highest regional poverty rate at 15%, partially due to higher regional unemployment (National Rural Health Alliance, 2013a). Alston (2000, 29) identifies government's lack of "equitable distribution of and access to resources such as services, employment and income opportunities" as a major cause of regional poverty.

A key causal factor of regional poverty in a 2004 Senate Inquiry was less primary industry-based employment compared to metropolitan hubs, compounded by reduced numbers of blue-collar jobs (National Rural Health Alliance, 2013a, 4). Because these industries are dominated by men, this is especially felt in very remote areas, where there are 13 more men to every 100 women (ABS, 2008). Regional poverty is determined by access to education and employment, and income levels (Salt in ABC, 2014) and previously well-established regional centres were falling into poverty due to the loss of many heavy industry jobs (MacIntyre in ABC, 2014). Another factor contributing to regional poverty is the reduced amount of farm work available as the number of working farms across Australia decreases (Alston, 2000). Consequently, to avoid poverty, regional Australians may need to train in other skilled professions that could be used to complement their farm work, or act as a second skill set to attract an income when land conditions are difficult. However, abandoning the land is not always an option. For example, Queensland primary producers have recently experienced drought conditions that have threatened farmers with crippling overhead costs, pests and declining property value (Paton, 2014). Maintaining a working property often means that owners are unable to leave their land for alternative income, even if other work is available (Paton, 2014). The flow-on effects of drought are responsible for slowing small businesses in regional communities (Paton, 2014). Business owners are often forced to reduce opening hours and employee working hours to compensate lower turnovers (Paton, 2014).

While regional poverty is a very real phenomenon, it should be noted that almost 87% of regional Australians are not living below the poverty line (National Rural Health Alliance, 2013a). This does not mean however, that regional people enjoy the same advantages as metropolitan populations. Disadvantage in regional populations includes financial as well as geographical distance from specialist services, and lack of access to facilities and services including higher education and internet connectivity. Significantly, Alston (2000) also suggests that a lack of social capital is a form of poverty. Understanding this disadvantage provides some leeway into why regional youth opt not to pursue university, but conversely also why it is important that higher education becomes more accessible and a priority to regional youth.

Regional Disadvantage: Education Access

A central factor in the importance of access to higher education for regional students is the shift in regional areas from primary production such as agriculture, to industries such as tourism, financial services and education (Townsend, 2010). New skills and jobs have emerged as a result of the large-scale shift to a digital economy, particularly within specialised business services and education. Areas of growth and employment in the regions will require a highly skilled and qualified workforce; a workforce that is currently not at full capacity regionally (Dewar, 2015). Digital competencies are now necessary across many industries requiring training and a sophisticated understanding of the businesses in which they are embedded (Swan & Hearn, 2014). This places greater emphasis on higher (and secondary) education for skills and conceptual development in the digital economy. Curiously, despite this demand, regional and remote university enrolments are stagnant or declining. Bridget McKenzie, chairwoman of the Senate education and employment legislation committee, reported that just 12.7% of inner regional, 12.5% of outer regional and 7% of remote youths are currently at university (McKenzie, 2016). Despite figures showing that regional enrolments are increasing, this has been proportionate with population growth, meaning there has been no marked increase in university placements (NCSEHE, 2015). Regional commencing enrolments dropped by 1.6% in 2015 compared with the previous year (DET, 2016). More alarmingly, remote commencing enrolments dropped by 4% in the same time period (DET, 2016). An additional setback for regional youth is that they have not had access to many “occupational role models” that would allow them to see and potentially experience a career that involves higher degree training (Downey, 1980). Therefore, it is important to uncover what does motivate regional students to pursue higher education and what barriers exist to their participation.

Regional universities’ have suffered falling or stagnant enrolments since 2009, indicating that regional students who are attending university are moving to cities (Dewar, 2015). Most universities are in urban centres, which greatly favour urban students in terms of access (Manning, 2010). Six of Australia’s regional universities form the Regional Universities Network (RUN) - CQUniversity; Southern Cross University; University of Ballarat; University of New England; University of Southern Queensland; and University of the Sunshine Coast (Regional Universities Network (RUN), 2013). From 2013-2015, proportions of commencing students at regional universities have remained stagnant at around 43-44% (RUN, 2016). In total, 23% of all regional university students attend one of the Regional University Network universities (RUN, 2016). This statistic indicates that over 75% of regional university students are attending non-regional universities. Many regional students still need to travel even to the regional facilities (Manning 2010). In many cases this has led students to pursue vocational education pathways, as it often does not require a move, or necessarily completing Year 12 (Abbott-Chapman & Kilpatrick, 2001; Robinson, 2012). There are studies that show regional universities are better at producing graduates who are highly employable in regional areas, and maintain a connection with the communities students have come from (Evans et al., 2013; Curtis, 2011). Census data from 2007-2011 showed that over 60% of bachelor-level graduates from Regional University Network universities were employed regionally within four months of graduation (RUN, 2013). This is especially important when regional communities need to keep their skilled youth to maintain essential professions and services (Curtis, 2011). Consequently, while regional universities are a source of great potential, they need to work strategically to entice enrolments from their target market (Robinson, 2012). Further research into the motivations of students when choosing a university may assist regional universities to gain enrolling students.

For those regional students who do opt to go to university, it is a costly exercise. Most students face an annual cost of over \$30 000, not including any moving fees, just to live away from home to study (McKenzie, 2016). In some scenarios, a one-way trip to a large university in the family car

is costing regional families 3.5 times more than metropolitan families (Manning, 2010). Unsurprisingly, those that do relocate to an urban centre put considerable pressure on parents to support their children with rent and living costs, especially as many regional based parents are farmers and small business owners who have their own financial problems (Fleming & Grace, 2014; McKenzie, 2016). In some cases, the cost of these factors can lead regional students to decide not to pursue higher education well before they finish high school because of the enormous amount of support required for them to go (Fleming & Grace, 2014). Students who go to urban centres to study often do not return to the regions to work and live (Dewar, 2015; Dalley-Trim & Alloway, 2010; Curtis, 2011). Some academics fear that the numbers of regional students studying at urban universities will cause a regional “brain drain,” as the brightest regional youth leave their communities and gain employment in cities (Pitman, 2014; Australian Clearinghouse for Youth Studies, 2015). Regional universities are said to have the potential to prevent this migration by encouraging students to complete their bachelor degrees closer to their hometowns (Pitman, 2014).

Aside from the logistical considerations of travel and money, many other factors disadvantage regional students’ access to higher education from as early as primary school age, which may make other options seem more attractive (Lamb et al., 2015). For instance, compared to the average Australian student, those in very remote areas are up to 48% below the academic competencies necessary to meet educational milestones than the average Australian student (Lamb et al., 2015). In some remote areas education participation is as low as 32.9% (Mission Australia, 2014). A recent study found that at all stages of the education journey (from early schooling to post-school study), the proportion of students meeting educational milestones decreased as the students’ distance from a metropolitan centre increased (Lamb et al., 2015). This correlation between educational outcomes and geographic location, effectively sentences students to disadvantage well before they are of age to consider higher education (Lamb et al., 2015). The disadvantage stems from the nation’s inability to provide access to quality education services across the country, which is caused by its sheer geographic expanse, lack of funding, and a struggle to keep qualified staff in small communities (Lamb et al., 2015). While online learning options are increasingly available for regional people interested in higher education, there are concerns about the quality of internet connectivity in regional areas (RTRIC, 2015), as well as arguments for the benefits of face-to-face learning and social interaction while studying at higher education level (Dutton et al., 2001). While it is difficult to draw a clear conclusion, some studies are showing that online students perform equally as well as on-campus students in exams (Werhner, 2010). Online learning is being taken up by 18% of students across Australia, with an additional 9% mixing on and off campus study (McKenzie, 2016). External students at RUN universities make up 28% of all external students in Australia, while 10% of all university students are completing “multi-modal” (face-to-face and online) study at a regional university (RUN, 2016).

Another group with specific needs in terms of access to higher education is indigenous students. Quoted in a report produced by the Australian Clearinghouse for Youth Studies (2015), Allard and Sanderson state that indigenous students are disadvantaged because their knowledge, including cultural, communal, and economic knowledge, is outside the “dominant structures” of the mainstream. The small 1.1% of all 2015 university enrolments taken up by indigenous students cements this statement (DET, 2016). In 2015, regional universities taught 17% of all indigenous university students in the country (RUN, 2016). While there has been significant improvement in indigenous student enrolments over time, similar to all regional higher education enrolments, they are still well below other enrolment groups when population growth is accounted for (Wilson & Wilks, 2015). There are a myriad of reasons for this which will not be discussed here, including policy, politics, schooling and health (Wilson & Wilks, 2015). These factors and more discussion are covered in detail by Wilson and Wilks in their 2015 article.

In this section we have seen the extent of the disparity in higher education access felt by regional students. Sheer distance, time and money form barriers for regional youth that prevent or detract from their opportunity to attend higher education. The lack of participation in higher education may also prevent regional youth from learning digital competency skills as part of a degree (Duncan-Howell, 2012). Again the combination of these factors suggests that regional youth could become more disadvantaged in the digital economy of tomorrow. This reality points to a need for more research into what policy developments, additions to schooling, or aid would assist regional youth, with the aim of increasing their ability to participate in a changing workforce.

Further Education Policy and Local Options in Regional Areas

There has been some policy intervention aiming to increase regional youths' awareness of higher education since the late 2000s, with the intent that more information could translate into more enrolments. Since the introduction of the Higher Education Participation and Partnerships Program (HEPPP, now HEPP) following the 2008 Bradley Review, regional students across Australia are now participating in widening participation programs. The programs aim to raise aspiration and awareness of university study, and how courses are useful for entry into the workforce. While it is important that regional students learn about tertiary options, simply learning about options does not necessarily make them accessible. Thus, for regional students wanting to stay in their local environment, further education takes the form of TAFE or vocational training. For some, this can be a stepping stone to higher education later on (Robinson, 2012).

TAFE enrolments have significantly decreased in recent years. Local and national newspapers have been littered with news of declining enrolments, cut funds, and closing facilities for the last several years. In 2013, *The Australian* reported that Queensland TAFE enrolments dropped by 4.5% (Trounson, 2013), the same year that 13 of Queensland's then 82 TAFE institutions were closed (National Tertiary Education Union, 2013). There have been cases made for regional youth wanting to pursue vocational or TAFE studies for a few reasons; firstly that they will be trained often on the job in a skill that will be useful in small communities, and secondly that they will be able to remain (or return) home (Manning, 2010). Regional economies have been particularly hard hit due to a cut in vocational education funding preventing regional youth from training for local jobs (Australian Education Union, 2015). Of all vocational education students, 14.3% are from regional areas (National Centre for Vocational Education Research (NCVER), 2015). While the majority of these students study agriculture, environmental and related study areas (35.7%), 11.4% are studying information technology (NCVER, 2015).

Curtis (2011) cautions that a vocational pathway for regional students can be an educational disadvantage, as often only lower level qualifications (Certificates I and II) are pursued. However, Robinson (2012) concluded that without tertiary study options in their local vicinity (her comment specifically dealt with regional university campuses), many regional students would not study after school at all. Here we meet an intersection between the importance of both regional university campuses and TAFE (or similar) institutions in regional post-school – particularly vocational – education. Some students, particularly those from regional areas or would-be first generation university attenders, are opting to study a Diploma of Tertiary Studies (or similar name – sometimes called Tertiary Preparation) as a stepping-stone into higher education (Levy, 2014). Therefore, vocational education has a multitude of purposes in the regional context, from a local starting point in tertiary education, a stepping-stone to a higher degree, or a course-based introduction to higher education. In the context of higher education in the form of university,

these roles have varying degrees of value. On the one hand, vocational education has the power to assist regional youth to reach higher education; on the other, while it may allow young regionals to stay in their local communities, they may be settling for a lesser qualification or miss out on skills that would be more useful in a digital economy.

Conclusion

This article has demonstrated that regional students face a range of barriers to access higher education, many of which are beyond their or their families' control. This comes at a critical and unprecedented time when many industries are being disrupted by innovations in technology and in globalisation. Internet services to the regions are improving, but are still costly by comparison to metropolitan services. Varying abilities in terms of using the internet also disadvantage regional populations. As the digital economy continues to develop at a rapid rate, it is increasingly important for incoming members of the workforce to have digital skills, and knowledge of digital media (FYA, 2015). Simultaneously, the numbers of graduates with information technology degrees are falling. More research is required to understand how regional students make decisions about higher education, particularly those students that do opt to attend, amid the obstacles they face to get there. Of specific interest would be to understand how they might choose to study within the digital media industries.

Evidently the current higher education landscape is difficult to negotiate for regional students at present. Without regional youth undertaking further study and remaining in the regions, regional communities face losing essential services. What motivates regional youth towards higher education decisions needs to be uncovered to aid higher education providers to meet their needs and the needs of their communities. Presently the higher education system is limiting access for regional students, partially because they are so far away. This is most obvious by the small numbers of overall university enrolments from regional students. In order for these students to participate both in higher education, and in the long term, the digital economy, policy shift could be required. Further research in this area could aid in determining the unknown barriers for regional students, as well as shed more light towards alleviating known barriers.

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